Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-27 (canceled).

Claim 28 (new): A method for determining a property of a portion of a substrate, the method comprising:

heating a region of a metal layer in the substrate using power modulated at a frequency that is predetermined to be sufficiently low to ensure that at least a majority of heat is transferred out of the region by diffusion rather than by a thermal wave;

measuring a change in reflectance of the metal layer at the frequency of modulation of the power of heating; and

using the change in reflectance in a programmed computer, to determine a measure of electrical conductance of a feature formed by patterning the metal layer.

Claim 29 (new): The method of Claim 28 wherein:

the frequency is lower than a maximum frequency of 5985 Hz.

Claim 30 (new): The method of Claim 28 further comprising:

changing the power used in said heating to a new power; and

repeating at the new power each of said heating, said measuring and said using in said region.

Claim 31 (new): The method of Claim 28 further comprising:

repeating said heating, said measuring and said using in another region.

Claim 32 (new): The method of Claim 28 wherein:

SILICON VALLEY
PATENT GROUP LLP
2350 Mission College Blvd
Suite 360
Santa Clara, CA 95054
(408) 982-8200
FAX (408) 982-8210

the feature is a via.

Claim 33 (new): The method of Claim 28 wherein:

the feature is a conductive line.

Claim 34 (new): The method of Claim 33 wherein:

the measure is resistance per unit length of the conductive line.

Claim 35 (new): The method of Claim 33 wherein:

said frequency is smaller than a maximum frequency, said maximum frequency being inversely related to at least one of:

length of the conductive line; and

a distance at which the temperature of said conductive line is an order of magnitude smaller than the temperature in said region.

Claim 36 (new): The method of Claim 28 further comprising:

forming the metal layer by using at least one process parameter; and

changing the process parameter if necessary depending on the measure of electrical conductance determined during said using.

Claim 37 (new): The method of Claim 28 wherein:

said measuring comprises using a lock-in amplifier tuned to said frequency.

Claim 38 (new): A method for determining a property of a portion of a substrate, the method comprising:

heating a region of conductive material in the substrate using power modulated at a frequency that is predetermined to be sufficiently low to ensure that at least a majority of heat is transferred out of the region by diffusion rather than by a thermal wave;

measuring a change in reflectance of the region at the frequency of modulation of the power of heating; and

SILICON VALLEY
PATENT GROUP LLP
2350 Mission College Blvd
Suite 360
Santa Clara, CA 95054
(408) 982-8200
FAX (408) 982-8210

using the change in reflectance in a programmed computer, to determine an indication of thermal conductivity of a dielectric material in contact with the conductive material.

Claim 39 (new): The method of Claim 38 wherein:

the conductive material in the region is unpatterned.

Claim 40 (new): The method of Claim 38 wherein:

the conductive material in the region is comprised in a plurality of conductive lines.

Claim 41 (new): The method of Claim 38 further comprising:

changing the power used in said heating to a new power; and

repeating at the new power each of said heating, said measuring and said using in said region.

SILICON VALLEY
PATENT GROUP LLP

2350 Mission College Blvd
Suite 360
Santa Clara, CA 95054
(408) 982-8200
FAX (408) 982-8210